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10/749,996	12/31/2003	Zeev Shpiro	026285-000810	9977

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EXAMINER
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SHAH, PARAS D

ART UNIT	PAPER NUMBER
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2626

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06/25/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/749,996

Applicant(s)

SHPIRO ET AL.

Examiner

Paras Shah

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/27/2004</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This communication is in response to the Application filed on 12/31/2003.

#### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 08/27/2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

#### ***Oath/Declaration***

3. It does not state that the person making the oath or declaration acknowledges the duty to disclose to the Office all information known to the person to be material to patentability as defined in 37 CFR 1.56. In the filed oath of declaration the following statement is incorrect: "I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations Section 1.56(a)." the 1.56(a) should be 1.56.

#### ***Specification***

4. The disclosure is objected to because of the following informalities: "or" should be changed to "for" as seen on page 12, line 10.

Appropriate correction is required.

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The limitations in claims 8 and 20 of the term "cluster" in line 2 is not found in the specification. The limitations in claims 3 and 14 of the terms "acceptance limit" in line 7 are not found in the specification.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 2, 3, 8, 13, 14 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claims 2 and 13 are vague as to what the Applicant is seeking to patent. For purposes of compact prosecution, the term "grossly different" was interpreted to mean pronunciation that is different than the desired pronunciation.

9. Claims 3 and 14 are vague as to what the Applicant is seeking to patent. The Applicant describes in these claims as being circumstances where an error is identified. However, in lines 5-8, the Applicant denotes the similarity between sound units within an acceptable limit. This statement would result in no error. For the purposes of compact prosecution, the following lines of the claim were interpreted to mean an incorrect pronunciation that was determined to be correct. Further, in lines 13 and 14 (part d.), the limitations of "the user desired utterance not present in the corresponding

sound unit of the user utterance" is equivalent to that of part b and c of the claim.

Hence, for purposes of compact prosecution, the limitations were interpreted as being the same as parts b and c.

10. Claims 8 and 20 are vague as to what the Applicant is seeking to patent. Hence, for the purposes of compact prosecution, the two claims were interpreted as the feedback being shown in a sequence from basic sound units to actual word.

### ***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1, 2, 4-7, 10-13, 15-18, 21,22 rejected under 35 U.S.C. 102(b) as being anticipated by Gottesfeld *et al.* (WO 99/13446).

As to claims 1 and 12, Gottesfeld *et al.* discloses

a. receiving a user utterance into a computer system (see pages 6, line3 and page 3, 4<sup>th</sup> paragraph, line 2);

b. Analyzing the user utterance (see page 6, 8<sup>th</sup> paragraph, lines 1-2) according to basic sound units (see page 6, 8<sup>th</sup> paragraph, lines 3-4);

c. Comparing the analyzed user utterance and desired utterance so as to detect any difference between the basic sound units comprising the user utterance and the basic sound units comprising the desired utterance (see page

8, 7<sup>th</sup> paragraph, lines 1-5) (e.g. In order to check for the correct pronunciation the pronunciation is compared to the to the database recordings) ;

d. Determining if a detected difference comprises an identifiable pronunciation error (see page 8, 1<sup>st</sup> paragraph) (e.g. It is implied that when the system encounters a pronunciation error that a determination is made); and

e. Providing feedback to the user in accordance with the comparison (see page 8, 2<sup>nd</sup> and 3<sup>rd</sup> paragraphs) (e.g. The stated citations state the consequences in terms of feedback depending on if a correct pronunciation or incorrect pronunciation took place). As to claim 12, Gottesfeld *et al.* discloses the use of an input device and a computer (see Figure 1, element 10 and page 6, line 3 (Figure 1, element 16)) (e.g. It is inherent that a computer consists of a processor.)

As to claims 2 and 13, Gottesfeld *et al.* discloses wherein determining includes

garbage analysis (e.g. In Applicant's specification, the Applicant interprets garbage to mean an utterance different than the expected utterance (see Applicant's specification page 11, line 8-10) that determines if the user utterance is a grossly different utterance than the desired utterance (see page 8, 1<sup>st</sup> paragraph) (e.g. It is determined that a mispronunciation when comparing it to the desired pronunciation (see page 7, 2<sup>nd</sup> paragraph).

As to claims 4 and 15, Gottesfeld *et al.* discloses wherein the providing feedback includes

providing the user with a description of the mispronunciation (see page 7, 2<sup>nd</sup> paragraph and page 8, 1<sup>st</sup> paragraph).

As to claims 5 and 16, Gottesfeld *et al.* discloses wherein

the said basic units are phonemes (see 6, 8<sup>th</sup> paragraph, lines 3-4).

As to claims 6 and 17, Gottesfeld *et al.* discloses wherein

the identified basic sound unit (see 6, 8<sup>th</sup> paragraph, lines 3-4) in the user utterance can be either a basic sound unit of the desired utterance or a basic sound unit of the user's native language (see page 5, 7<sup>th</sup> paragraph, lines 2-5).

As to claims 7 and 18, Gottesfeld discloses wherein said feedback includes

presentation of at least part of the utterance text corresponding to the user utterances basic sound units with identified production error (see page 6, last paragraph and Figure 3A and 3B) (e.g. The figure shows the word of interest and the underlined portion shows the mispronounced phoneme by the user's production of the pronunciation).

As to claims 10 and 21, wherein analyzing includes

assigning a stress level (e.g. It is inherent that a stress level will be assigned for comparison purposes (see Komissarchik *et al.*, col. 8, lines 5-15) )) for at least one basic sound unit and, after comparison, determining if a detected difference is an identifiable stress error (see page 7, 2<sup>nd</sup> paragraph, lines 1-4 and Figure 2) (e.g. From the figure it is seen that a comparison is done in element 30 from the user's input utterance and then transferred to the super-segmental step).

As to claims 11 and 22, wherein analysis includes

mapping of intonation (e.g. It is inherent that a intonation metric is used for comparison purposes (see Komissarchik *et al.*, col. 7, lines 64-67-col. 8, lines 1-4) to basic sound units and, after comparison, determining if a detected difference comprises an identifiable intonation error (see page 7, 2<sup>nd</sup> paragraph, lines 1-4 and Figure 2) (e.g. From the figure it is seen that a comparison is done in element 30 from the user's input utterance and then transferred to the super-segmental step).

### ***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



14. Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gottesfeld *et al.* (WO 99/13446) in view of Witt *et al.* ("Computer-assisted Pronunciation Teaching based on Automatic Speech Recognition," 04/28/1997)

As to claims 3 and 14, Gottesfeld discloses analyzing and mapping of the basic sound units and the user utterance sound units (see page 8, 7<sup>th</sup> paragraph), and wherein determining an identifiable pronunciation error as different from user utterance and one that is not present and the desired utterance not present in the user utterance (see page 7, 2<sup>nd</sup> paragraph) (e.g. It is seen that a mispronunciation can include a pronunciation that is different and one not present in the database. Further, the desired utterance not present in the user utterance is equivalent to the user utterance being different than the desired utterance or being mispronounced).

However, Gottesfeld *et al.* does not specifically disclose the classification of errors based on incorrect pronunciation detected as correct.

Witt *et al.* does disclose the incorrect pronunciation detected as correct (see page 6, bullet 2 and page 6 last two lines-page 7, lines 1-3), sound unit of the user utterance not found in the desired utterance.

It would have been obvious to one of ordinary skilled in the art at the time the invention was made to have modified the spoken language teaching for pronunciation presented by Gottesfeld *et al.* with the inclusion of the classification of errors. The motivation to have combined the two references involves the performance evaluation based on decision typed in order to tell the user the

phonemes pronounced incorrectly (see page 6, last 2 lines and page 7, 2<sup>nd</sup> paragraph).

15. Claims 8, 9, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gottesfeld *et al.* (WO 99/13446) in view of August *et al.* (US 7,149,690).

As to claims 8 and 19, Gottesfeld does not specifically disclose the grading of the basic sound unit with a predetermined level.

August *et al.* does disclose the grading (see Figure 11, element 1102 and Figure 10, element 1008 and 1010) of the basic sound units (see Figure 11, element 1104) from the input utterance based on an a priori performance level (see Figure 1116 and col. 13 line 67-col. 14, lines 1-2) (e.g. It is seen from August *et al.* reference that the scores are compared to an a priori value in order to determine the lessons that are given to the student).

It would have been obvious at the time the invention was made to have combined the spoken language teaching for pronunciation presented by Gottesfeld *et al.* with the grading of the pronunciations presented by August *et al.* The motivation to have combined the two references involve the ability to determine and access the individual's level and to determine the progress made (see col. 4, lines 4-8), as would benefit the system and method described by Gottesfeld *et al.* for the selection of the lessons for pronunciation based on grades.

As to claims 9 and 20, Gottesfeld discloses wherein feedback is provided when mispronunciation is segmental relating to the different word levels (see Figure 7, 2<sup>nd</sup> paragraph and 5<sup>th</sup> paragraph).

However, Gottesfeld does not specifically disclose the hierarchical feedback being given.

August *et al.* does disclose the hierarchical feedback (see Figure 11, elements 1102 and 1104 and see col. 13, lines 65-col. 14, lines 1-9) being given to the user with the phoneme as the lowest level for feedback (see Figure 11, element 1104).

### ***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shapiro (US 5,766,015) and Shapiro (US 2002/0150869) are cited to teach an interactive language-training device for pronunciation. Russell *et al.* (US 5,791,904) is cited to disclose a speech training aid for pronunciation. Komissarchik *et al.* (US 6,397,185) is cited as evidence to show specific levels assigned for stress and intonation, when comparison is done.

Shingo (JP 2000-347560) is cited to teach a pronunciation device for analyzing pronunciation.


The NPL document by Kirschning *et al.* ("Verification of Correct Pronunciation of Mexican Spanish Using Speech Technology") is cited disclose a pronunciation verification of spoken words.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paras Shah whose telephone number is (571)270-1650. The examiner can normally be reached on MON.-THURS. 7:30a.m.-4:00p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571)272-7603603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

P.S.  
06/11/2007

  
**PATRICK N. EDOUARD**  
**SUPERVISORY PATENT EXAMINER**